

### AMENDMENTS TO THE CLAIMS

1. - 54. (Canceled)

55. (Currently amended) A sensor for implantation within a blood vessel comprising:

a support structure;

a sensor housing carried by the support structure; and

a sensing surface exposed to the exterior of the housing;

wherein the sensor is configured to detect nitric oxide or a metabolic product of nitric oxide-metabolite, and wherein the sensor has streamlined configuration with respect to the support, and wherein the sensing surface includes a layer that minimizes the formation of thrombus.

56. (Previously presented) An implantable sensor as in Claim 55, wherein the support structure comprises a stent.

57. (Previously presented) An implantable sensor as in Claim 55, wherein the support structure comprises a catheter.

58. (Previously presented) An implantable sensor as in Claim 55, wherein the support structure comprises an expandable metal mesh.

59. (Previously presented) An implantable sensor as in Claim 55, wherein the sensor housing is positioned on the luminal side of the support structure.

60. (Previously presented) An implantable sensor as in Claim 55, wherein the sensor housing is positioned within an opening on the side wall of the support structure.

61. (Previously presented) An implantable sensor as in Claim 55, further comprising a tubular sleeve surrounding the support structure.

62. (Previously presented) An implantable sensor as in Claim 61, wherein the tubular sleeve is on the radially outwardly facing surface of the support structure.

63. (Previously presented) An implantable sensor as in Claim 61, wherein the tubular sleeve comprises ePTFE.

64. (Previously presented) An implantable sensor as in Claim 55, wherein the sensor comprises an ion-selective electrode.

65. (Previously presented) An implantable sensor as in Claim 55, wherein the sensor is selected from the group consisting of amperometric electrodes, porphyrinic electrodes, and microchip electrodes.
66. (Previously presented) An implantable sensor as in Claim 55, further containing an analyte permeable membrane and an enzyme gel layer.
67. (Previously presented) An implantable sensor as in Claim 66, wherein the enzyme gel layer comprises nitrate reductase.
68. (Currently amended) A sensor for implantation within a blood vessel comprising:  
a support structure;  
a sensor housing carried by the support structure; and  
a sensing surface exposed to the exterior of the housing and wherein the sensing surface includes a layer that minimizes the formation of thrombus;  
wherein the sensor is configured to detect a metabolic product of nitric oxide ~~metabolite~~.
69. (Previously presented) An implantable sensor as in Claim 68, wherein the support structure comprises a stent.
70. (Previously presented) An implantable sensor as in Claim 68, wherein the support structure comprises a catheter.
71. (Previously presented) An implantable sensor as in Claim 68, wherein the support structure comprises an expandable metal mesh.
72. (Previously presented) An implantable sensor as in Claim 68, wherein the sensor housing is positioned on the luminal side of the support structure.
73. (Previously presented) An implantable sensor as in Claim 68, wherein the sensor housing is positioned within an opening on the side wall of the support structure.
74. (Previously presented) An implantable sensor as in Claim 68, further comprising a tubular sleeve surrounding the support structure.
75. (Previously presented) An implantable sensor as in Claim 74, wherein the tubular sleeve is on the radially outwardly facing surface of the support structure.

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76. (Previously presented) An implantable sensor as in Claim 74, wherein the tubular sleeve comprises ePTFE.

77. (Previously presented) An implantable sensor as in Claim 68, wherein the sensor comprises an ion-selective electrode.

78. (Previously presented) An implantable sensor as in Claim 68, wherein the sensor is selected from the group consisting of amperometric electrodes, porphyrinic electrodes, and microchip electrodes.

79. (Previously presented) An implantable sensor as in Claim 68, further containing an analyte permeable membrane and an enzyme gel layer.

80. (Previously presented) An implantable sensor as in Claim 79, wherein the enzyme gel layer comprises nitrate reductase.